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Office Memorandum • UNITED STATES GOVERNMENT

TO : The Files - RD-103, T.O. 8

DATE: 29 May 1959

FROM :

SUBJECT: (Trip Report - [redacted] Field Test of AS-6

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1. From 13 to 23 May 1959 a trip was made to [redacted] for simulated field testing of the AS-6 Automatic Data Transmissions System. Participating in this test program were:

2. The AS-6 data transmitter and its companion collector were field tested under simulated operational conditions for the purpose of transmitting collected data back to the AS-6 base station [redacted]. After several initial equipment adjustments the transmission portion of the system performed reliably and continued two-way contact was maintained with [redacted]. Although the collection portion of the tests also had generally favorable results, system incompatibility, evidenced by RF feedback to the collector, prevented successful system performance.

4. Several valuable results emerged from these tests despite our failure to achieve full system operation. It is evident that a switch or button to start the internal timer on the AS-6 and thus initiate a series of transmissions is absolutely necessary if any check-out of the final unit is desired before installation. Consequently, [redacted] was asked to incorporate such a feature on the final AS-6 field unit to be delivered on 15 August 1959.

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5. The [] received a thorough field test and proved itself capable of keeping excellent time even when the AS-6 was being handled and transported. As a result, it was decided that the final field unit will be carried to its destination with the timer running, so that the installation party does not have to set and start the timer after the AS-6 is emplaced. A small cable will connect the timer to the radioisotope power supply, AP-6, and keep it running until the equipment is installed. A decision by the operational representatives to place the power supply and the transmitter on the same back pack for reasons of weight distribution allows the AP-6 to be used as a "keeper" battery for the timer.

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6. The AP-6 power supply was used to power the transmitter and collector and no difficulty arose after a minor problem was resolved by a field expedient. The 300VDC converter supplied by [] for inclusion in the [] box refused to start under load so the transmitter was modified to remove the load from the 300 volt line until the voltage appeared. The AP-6 was left at [] for duty-cycle measurements and continued system testing of the transmitter and collector.

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7. The failure of the equipment to operate as a system resulted in the following additions to the remaining portion of the program:

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- (a) [] technician will spend approximately one week [] beginning 2 June working with [] engineers to locate and eliminate the causes of RF feedback.
- (b) A [] team will participate in the collector tests scheduled to begin approximately 22 June in []. [] will once again act as base station for the prototype field unit in an attempt to demonstrate complete two-way system operation. (Although all base and field functions have been successfully tested at one time or another during the Washington, D.C. and [] it is considered desirable to demonstrate most conclusively that the operation is successful.)

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[REDACTED]

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8. This extension of the testing program represents not only an increase in cost [REDACTED] is including an extra \$5000.00 in a no-fee overrun request), but sharply increases the pressure on both contractors during the final phase of the program. The base station cannot be changed to the operational frequencies until the test program is finished, and this may delay checkout of the final field unit.

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[REDACTED] was told that it would be absolutely necessary to bring out data leads in the final unit to permit testing of system compatibility by means of a Visicorder in the event that a base station was not available. The base station must leave [REDACTED] no later than 1 August in order to be ready for operation at [REDACTED] on 1 September. It was agreed that the [REDACTED] engineer responsible for the base station program, [REDACTED], would leave [REDACTED] 1 August, delay briefly in Washington, and arrive at [REDACTED] approximately 10 August.

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9. The AS-6 base station was inspected on a visit to [REDACTED] on 11 May 1959. The equipment contains many improvements over the AS-4 and AS-4A equipment including several of the packaging advances devised for the AS-5. Except for the incorporation of a remote control unit and switchover to the operational frequency, work on the base station is complete. [REDACTED] OC-E/IMB, who had just completed a four-week instruction course in the AS-6, demonstrated to the writer several of the maintenance features pertinent to the AS-6.

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Distribution:
R+D Subject File
Monthly Report
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TSS/APD - [REDACTED]
FI/SR - [REDACTED]
OC-T/CT/OR - [REDACTED]
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